NR

CORRECTIVE ACTION STABILIZATION QUESTIONNAIRE

Completed by: Mary Wojciechowski
Date: June 1, 1992

Background Facility Information

Facility Name: Southern Illinois University Science Building
EPA Identification No.: ILD 006 331 342
Location (City, State): Edwardsville, Illinois
Facility Priority Rank: Low

1. Is this checklist being completed for one solid waste management unit (SWMU), several SWMUs, or the entire facility? Explain.

Entire facility
4 SWMUs

Status of Corrective Action Activities at the Facility

2. What is the current status of HSWA corrective action activities at the facility?

( ) No corrective action activities initiated (Go to 5)
(X) RCRA Facility Assessment (RFA) or equivalent completed
( ) RCRA Facility Investigation (RFI) underway
( ) RFI completed
( ) Corrective Measures Study (CMS) completed
( ) Corrective Measures Implementation (CMI) begun or completed
( ) Interim Measures begun or completed

3. If corrective action activities have been initiated, are they being carried out under a permit or an enforcement order?

( ) Operating permit
( ) Post-closure permit
( ) Enforcement order
(X) Other (Explain)

No corrective actions have been initiated.

4. Have interim measures, if required or completed [see Question 2], been successful in preventing the further spread of contamination at the facility?

( ) Yes
( ) No
( ) Uncertain; still underway
(X) Not required

Additional explanatory notes:

There is no history or suspicion of releases to environmental media at this facility.

7b. Is there a potential for human exposure to the contaminants released from the facility over the next 5 to 10 years?

( ) Yes
(X) No
( ) Uncertain

Southern Illinois University Science Building - ILD 006 331 342

Facility Releases and Exposure Concerns

5. To what media have contaminant releases from the facility occurred or been suspected of occurring? None

   ( ) Ground water
   ( ) Surface water
   ( ) Air
   ( ) Soils

6. Are contaminant releases migrating off-site?

   ( ) Yes; Indicate media, contaminant concentrations, and level of certainty.

Groundwater:
Surface water:
Air:
Soils:

   (X) No
   ( ) Uncertain

7a. Are humans currently being exposed to contaminants released from the facility?

   ( ) Yes (Go to 8a)
   (X) No
   ( ) Uncertain

   Additional explanatory notes:

There is no history or suspicion of releases to environmental media at this facility.

7b. Is there a potential for human exposure to the contaminants released from the facility over the next 5 to 10 years?

   ( ) Yes
   (X) No
   ( ) Uncertain

   Additional explanatory notes:

There is no history or suspicion of releases to environmental media at this facility.

8a. Are environmental receptors currently being exposed to contaminants released from the facility?

   ( ) Yes (Go to 9)
   (X) No
   ( ) Uncertain

   Additional explanatory notes:

There is no history or suspicion of releases to environmental media at this facility.

8b. Is there a potential that environmental receptors could be exposed to the contaminants released from the facility over the next 5 to 10 years?

   ( ) Yes
   (X) No
   ( ) Uncertain

   Additional explanatory notes:

There is no history or suspicion of releases to environmental media at this facility.

Anticipated Final Corrective Measures

9. If already identified or planned, would final corrective measures be able to be implemented in time to adequately address any existing or short-term threat to human health and the environment?

   ( ) Yes
   ( ) No
   ( ) Uncertain

   Additional explanatory notes:

There is no existing or short-term threat at this facility.

10. Could a stabilization initiative at this facility reduce the present or near-term (e.g., less than two years) risks to human health and the environment?

    ( ) Yes
    (X) No
    ( ) Uncertain

    Additional explanatory notes:

There is no present or near-term risk at this facility.

11. If a stabilization activity were not begun, would the threat to human health and the environment significantly increase before final corrective measures could be implemented?

    ( ) Yes
    (X) No
    ( ) Uncertain

    Additional explanatory notes:

There is no threat to human health and the environment at this facility.

Technical Ability to Implement Stabilization Activities

12. In what phase does the contaminant exist under ambient site conditions? Check all that apply.

    ( ) Solid
    ( ) Light non-aqueous phase liquids (LNAPLs)
    ( ) Dense non-aqueous phase liquids (DNAPLs)
    ( ) Dissolved in ground water or surface water
    ( ) Gaseous
    ( ) Other None

13. Which of the following major chemical groupings are of concern at the facility?

    (X) Volatile organic compounds (VOCs) and/or semi-volatiles
    ( ) Polynuclear aromatics (PAHs)
    ( ) Pesticides
    ( ) Polychlorinated biphenyls (PCBs) and/or dioxins
    ( ) Other organics
    (X) Inorganics and metals
    ( ) Explosives
    ( ) Other _____

14. Are appropriate stabilization technologies available to prevent the further spread of contamination, based on contaminant characteristics and the facility's environmental setting? [See Attachment A for a listing of potential stabilization technologies.]

( ) Yes; Indicate possible course of action.

(X) No; Indicate why stabilization technologies are not appropriate; then go to Question 18.

There is no history or suspicion of releases to environmental media at this facility.

15. Has the RFI, or another environmental investigation, provided the site characterization and waste release data needed to design and implement a stabilization activity?

( ) Yes
( ) No

If No, can these data be obtained faster than the data needed to implement the final corrective measures?

( ) Yes
( ) No

Timing and Other Procedural Issues Associated with Stabilization

16. Can stabilization activities be implemented more quickly than the final corrective measures?

( ) Yes
( ) No
( ) Uncertain

Additional explanatory notes:

17. Can stabilization activities be incorporated into the final corrective measures at some point in the future?

( ) Yes
( ) No
( ) Uncertain

Additional explanatory notes:

Conclusion

18. Is this facility an appropriate candidate for stabilization activities?

( ) Yes
( ) No, not feasible
(X) No, not required
( ) Further investigation necessary

Explain final decision, using additional sheets if necessary.

There is no history or suspicion of releases to environmental media at this facility.

UNDERGROUND STORAGE TANK
INSPECTION REPORT

Conducted on
April 29, 2003

Report Compiled by:

United States Environmental Protection Agency, Region 5
Underground Storage Tank Section
Waste Pesticides & Toxics Division
77 West Jackson Boulevard (DU-7J)
Chicago, Illinois 60604

TRIP REPORT

FACILITY IDENTIFICATION
Southern Illinois University
Route 157,
Edwardsville, Illinois

DATE OF INSPECTIONS:
April 28, 2003

PARTICIPANTS:
U. S. EPA, Region 5:
Arturo Cisneros, USEPA-UST, Enforcement Officer
Art Jacobs, Illinois OSFM

BACKGROUND:
As part of the United States Environmental Protection Agency (U.S. EPA) multimedia effort to inspect Southern Illinois University at Edwardsville (SIUE), located on route 157, in Edwardsville, Illinois, the UST program found three federally regulated UST at this facility. Arturo Cisneros, of the U.S. EPA met with Art Jacobs, of the Illinois Office of the State Fire Marshal at SIUE. Their findings are as follows:

FINDINGS:
Inspector Cisneros and Inspector Jacobs found three federally regulated tanks at the SIUE maintenance facility that were currently active (see Attachment 1). The tanks were a 10,000 gallon gasoline, a 10,000 gallon diesel tank, and a 2,500 gallon ethanol tank that was said to contain 85% gasoline. The inspectors found all the systems to have spill and overfill protection/prevention and verified the construction of tank & piping (i.e, fiberglass).

40 CFR 280.40(a)(2) requires that owners and operators of new and existing UST systems must provide a method release detection. Because all three UST (i.e., tanks & piping) were double walled, an interstitial monitoring release detection system was used. However, 40 CFR 280.45 also requires owners/operators of regulated UST systems to maintain the results of release detection monitoring for at least one year. No records were kept to verifying that the release detection monitoring was conducted for all three active UST systems (i.e, for both tanks & piping).

In addition, SIUE had about 14 federally regulated USTs that were recently closed/removed (see

Attachment 2). Three of these were classified as leaking and were reported to the Illinois EPA. 40 CFR 280.72, requires owners/operators of regulated UST systems to perform a site assessment to determine if a release as occurred, before permanent closure. Of the remaining eleven closed sites, (i.e., those not identified as a LUST sites), only three appeared to have conducted the closure assessment. The other nine are currently being investigated by the U.S. EPA and by SIUE to determine if assessment were completed. SIUE agreed to contact us with their findings.

Office of the Illinois State Fire Marshal
Underground Storage Tank System

11/06/2002 08:59 AM

Facility Detail Report

Facility Number: 6-014611

Facility Name: Southern Il Univ/Edwardsville
P.O. Box 1039
Edwardsville IL 62026 Madison

Original Received Date: 04/24/1986
OSFM Last Notify Date: 02/05/2002
Green Tag Number: D001617
Green Tag Date: 01/30/2002
Green Tag Issued by: Art Jacobs

Facility Type: Other
Facility Status: Active Status Date: 08/06/1998

Owner Number: U0014191

Type: Current Owner
Name: Southern Il Univ Edwardsville
P.O. Box 1039
Edwardsville IL 620261039

Tank Number: 1 Capacity: 10,000 Substance: Gasoline

Status: Currently in use
Status Date: 05/07/1997
Original Received Date: 05/07/1997
OSFM Last Notify Date: 02/05/2002
1998 Compliance Status: In Compliance
1998 Compliance Date: 12/08/1998
Had Release: ☐

Current Age: 4
Install Date: 03/ 8/1997
Last Used Date:
Product Date: 03/ 8/1997
Petroleum Use:
CERCLA Substance:
CAS Code:

Removed Date
Abandoned Material
Abandoned Date

Tank Fee $0.00
Fee Paid: ☑

LUST OSFM
1-30-02

Tank Info

Construction Material:
Double Walled
Fiberglass Reinforced Plastic
Corrosion Protection:
Double-walled
Fiberglass Reinforced Plastic
Release Detection:
Automatic Tank Gauging
Interstitial Monitoring Double-walled tank / piping
Spill:
Spill Containment Manhole
Overfill Prevention:
Drop Tube Overfill

Pipe Info

Piping Material:
Double-walled
Fiberglass Reinforced Plastic
Corrosion Protection:
Double-Walled
Fiberglass Reinforced Plastic
Release Detection:
Continuous Alarm System
Interstitial Monitoring Double-walled Tank / Piping
Pipe Type:
Pressure

Office of the Illinois State Fire Marshal
Underground Storage Tank System

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Facility Detail Report

Facility Number: 6-014611 859

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 2 Capacity: 2,500 Substance: Ethanol 15 gasoline

Status: Currently in use	Current Age: 4	Removed Date:
Status Date: 05/07/1997	Install Date: 03/ 8/1997	Abandoned Material:
Original Received Date: 05/07/1997	Last Used Date:	Abandoned Date:
OSFM Last Notify Date: 02/05/2002	Product Date: 03/ 8/1997	
1998 Compliance Status: In Compliance	Petroleum Use:	
1998 Compliance Date: 12/08/1998	CERCLA Substance:	Tank Fee: $0.00
Had Release: ☐	CAS Code:	Fee Paid: ☑

Tank Info

Construction Material:
Double Walled
Fiberglass Reinforced Plastic

Corrosion Protection:
Double-walled
Fiberglass Reinforced Plastic

Release Detection:
Automatic Tank Gauging
Interstitial Monitoring Double-walled tank / piping

Spill:
Spill Containment Manhole

Overfill Prevention:
Drop Tube Overfill

Pipe Info

Piping Material:
Double-walled
Fiberglass Reinforced Plastic

Corrosion Protection:
Double-Walled
Fiberglass Reinforced Plastic

Release Detection:
Continuous Alarm System
Interstitial Monitoring Double-walled Tank / Piping

Pipe Type:
Pressure

Office of the Illinois State Fire Marshal
Underground Storage Tank System

11/06/2002 08:59 AM

Facility Detail Report

Facility Number: 6-014611

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 3 Capacity: 12,000 Substance: Heating Oil

Status: Currently in use | Current Age: 4 | Removed Date:
Status Date: 05/07/1997 | Install Date: 0./26/1997 | Abandoned Material:
Original Received Date: 05/07/1997 | Last Used Date: | Abandoned Date:
OSFM Last Notify Date: | Product Date: 0 /26/1997
1998 Compliance Status: In Compliance | Petroleum Use: Heating Oil
1998 Compliance Date: 12/08/1998 | CERCLA Substance: | Tank Fee: $0.00
Had Release: ☐ | CAS Code: | Fee Paid: ☑

Tank Info

Construction Material:
- Fiberglass Reinforced Plastic

Corrosion Protection:
- Double-walled
- Fiberglass Reinforced Plastic

Release Detection:
- Automatic Tank Gauging
- Interstitial Monitoring Double-walled tank / piping
- Monthly Inventory Controls

Spill:

Overfill Prevention:
- Ball Float Valve
- Overfill Alarm

Pipe Info

Piping Material:
- Double-walled
- Fiberglass Reinforced Plastic

Corrosion Protection:
- Double-Walled
- Fiberglass Reinforced Plastic

Release Detection:
- Automatic Line Leak Detector
- Automatic Shut-Off Device
- Continuous Alarm System
- Line Tightness Testing

Pipe Type:
- Pressure

Office of the Illinois State Fire Marshal
Underground Storage Tank System

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Facility Detail Report

Facility Number: 6-014611

Last OSFM Inspection 1-30-02

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 4 Capacity: 1,000 Substance: Diesel

Status: Currently in use
Status Date: 03/20/2000
Original Received Date: 05/07/1997
OSFM Last Notify Date: 11/23/1998
1998 Compliance Status: In Compliance
1998 Compliance Date: 12/08/1998
Had Release: ☐

Current Age: 4
Install Date: 03/01/1997
Last Used Date:
Product Date: 03/01/1997
Petroleum Use:
CERCLA Substance:
CAS Code:

Removed Date
Abandoned Material
Abandoned Date

Tank Fee $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Fiberglass Reinforced Plastic
Corrosion Protection:
Double-walled
Fiberglass Reinforced Plastic
Release Detection:
Automatic Tank Gauging
Interstitial Monitoring Double-walled tank / piping
Monthly Inventory Controls
Spill:
Overfill Prevention:
Ball Float Valve
Overfill Alarm

Pipe Info

Piping Material:
Double-walled
Fiberglass Reinforced Plastic
Corrosion Protection:
Double-Walled
Fiberglass Reinforced Plastic
Release Detection:
Automatic Line Leak Detector
Automatic Shut-Off Device
Continuous Alarm System
Line Tightness Testing
Pipe Type:
Pressure

Tank Number: 5 Capacity: 550 Substance: Diesel

Status: Abandoned in place
Status Date: 03/20/2000
Original Received Date: 04/24/1986
OSFM Last Notify Date: 12/04/1996
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 34
Install Date: 01/01/1964
Last Used Date: 07/01/1998
Product Date: 01/01/1964
Petroleum Use: Back-up Generator
CERCLA Substance:
CAS Code:

Removed Date:
Abandoned Material: Inert Materials
Abandoned Date: 07/07/1998

Tank Fee: $0.00
Fee Paid ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Office of the Illinois State Fire Marshal
Underground Storage Tank System

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Facility Detail Report

Facility Number: 6-014611

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 6 Capacity: 250 Substance: Diesel

Status: Abandoned in place
Status Date: 12/04/1996
Original Received Date: 04/24/1986
OSFM Last Notify Date: 12/04/1996
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 27
Install Date: 01/01/1971
Last Used Date: 07/01/1998
Product Date: 01/01/1971
Petroleum Use: Back-up Generator
CERCLA Substance:
CAS Code:

Removed Date:
Abandoned Material: Inert Materials
Abandoned Date: 07/07/1998

Tank Fee: $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Tank Number: 7 Capacity: 8,000 Substance: Diesel

Status: Removed
Status Date: 12/04/1996
Original Received Date: 04/24/1986
OSFM Last Notify Date: 12/04/1996
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 34
Install Date: 01/01/1964
Last Used Date:
Product Date: 01/01/1964
Petroleum Use: Back-up Generator
CERCLA Substance:
CAS Code:

Removed Date: 07/09/1998
Abandoned Material:
Abandoned Date:

Tank Fee: $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Office of the Illinois State Fire Marshal
Underground Storage Tank System

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Facility Detail Report

Facility Number: 6-014611

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 8 Capacity: 1,000 Substance: Diesel

Status: Removed
Status Date: 12/04/1996
Original Received Date: 04/24/1986
OSFM Last Notify Date: 12/04/1996
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 34
Install Date: 01/01/1964
Last Used Date: 07/01/1998
Product Date: 01/01/1964
Petroleum Use: Back-up Generator
CERCLA Substance:
CAS Code:

Removed Date: 07/09/1998
Abandoned Material:
Abandoned Date:
Tank Fee: $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Tank Number: 9 Capacity: 8,000 Substance: Diesel

Status: Abandoned in place
Status Date: 12/04/1996
Original Received Date: 04/24/1986
OSFM Last Notify Date: 11/23/1998
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 34
Install Date: 01/01/1964
Last Used Date: 01/01/1998
Product Date: 01/01/1964
Petroleum Use: Back-up Generator
CERCLA Substance:
CAS Code:

Removed Date:
Abandoned Material: Inert Materials
Abandoned Date: 08/28/1998
Tank Fee: $0.00
Fee Paid ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Office of the Illinois State Fire Marshal
Underground Storage Tank System

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Facility Detail Report

Facility Number: 6-014611

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 10 Capacity: 8,000 Substance: Diesel

Status: Abandoned in place
Status Date: 03/20/2000
Original Received Date: 04/24/1986
OSFM Last Notify Date: 12/04/1996
1998 Compliance Status: Red Tag Issued
1998 Compliance Date: 12/08/1998
Had Release: ☐

Current Age: 34
Install Date: 01/01/1964
Last Used Date: 07/01/1998
Product Date: 01/01/1964
Petroleum Use: Back-up Generator
CERCLA Substance:
CAS Code:

Removed Date:
Abandoned Material: Inert Materials
Abandoned Date: 07/07/1998
Tank Fee: $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Tank Number: 11 Capacity: 30,000 Substance: Diesel

Status: Removed
Status Date: 05/15/1997
Original Received Date: 04/24/1986
OSFM Last Notify Date: 05/15/1997
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☑

Current Age: 34
Install Date: 01/01/1964
Last Used Date:
Product Date: 01/01/1964
Petroleum Use: Back-up Generator
CERCLA Substance:
CAS Code:

Removed Date: 03/24/1997
Abandoned Material:
Abandoned Date:
Tank Fee: $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Office of the Illinois State Fire Marshal
Underground Storage Tank System

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Facility Detail Report

Facility Number: 6-014611

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 12 Capacity: 10,000 Substance: Gasoline

Status: Removed	Current Age: 18	Removed Date: 04/10/1997
Status Date: 05/15/1997	Install Date: 01/01/1980	Abandoned Material:
Original Received Date: 04/24/1986	Last Used Date:	Abandoned Date:
OSFM Last Notify Date: 05/15/1997	Product Date: 01/01/1980	
1998 Compliance Status: Not Checked	Petroleum Use:	
1998 Compliance Date: 01/01/1998	CERCLA Substance:	Tank Fee: $0.00
Had Release: ☑	CAS Code:	Fee Paid: ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Lined Interior
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Tank Number: 13 Capacity: 500 Substance: Diesel

Status: Removed	Current Age: 18	Removed Date: 04/10/1997
Status Date: 05/15/1997	Install Date: 01/01/1980	Abandoned Material: Inert Materials
Original Received Date: 04/24/1986	Last Used Date: 01/01/1980	Abandoned Date: 01/01/1980
OSFM Last Notify Date: 05/15/1997	Product Date: 01/01/1901	
1998 Compliance Status: Not Checked	Petroleum Use:	
1998 Compliance Date: 01/01/1998	CERCLA Substance:	Tank Fee: $0.00
Had Release: ☑	CAS Code:	Fee Paid ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Office of the Illinois State Fire Marshal
Underground Storage Tank System

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Facility Detail Report

Facility Number: 6-014611

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 14 Capacity: 2,000 Substance: Gasoline

Status: Removed
Status Date: 05/15/1997
Original Received Date: 02/03/1988
OSFM Last Notify Date: 05/15/1997
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 11
Install Date: 01/01/1987
Last Used Date:
Product Date: 01/01/1987
Petroleum Use:
CERCLA Substance:
CAS Code:

Removed Date: 03/26/1997
Abandoned Material:
Abandoned Date:
Tank Fee: $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Fiberglass Reinforced Plastic
Lined Interior
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Fiberglass Reinforced Plastic
Corrosion Protection:
Release Detection:
Pipe Type:

Tank Number: 15 Capacity: 1,000 Substance: Diesel

Status: Removed
Status Date: 05/15/1997
Original Received Date: 02/03/1988
OSFM Last Notify Date: 05/15/1997
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 11
Install Date: 01/01/1987
Last Used Date:
Product Date: 01/01/1987
Petroleum Use:
CERCLA Substance:
CAS Code:

Removed Date: 03/26/1997
Abandoned Material:
Abandoned Date:
Tank Fee: $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Fiberglass Reinforced Plastic
Lined Interior
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Fiberglass Reinforced Plastic
Corrosion Protection:
Release Detection:
Pipe Type:

Office of the Illinois State Fire Marshal
Underground Storage Tank System

11/06/2002 08:59 AM

Facility Detail Report

Facility Number: 6-014611

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 16 Capacity: 750 Substance: Non Regulated

Status: Aboveground
Status Date: 01/07/2002
Original Received Date: 04/24/1986
OSFM Last Notify Date: 05/15/1997
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 16
Install Date:
Last Used Date:
Product Date:
Petroleum Use:
CERCLA Substance:
CAS Code:

Removed Date: 03/18/1997
Abandoned Material:
Abandoned Date:

Tank Fee: $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Tank Number: 17 Capacity: 500 Substance: Kerosene

Status: Removed
Status Date: 05/15/1997
Original Received Date: 04/24/1986
OSFM Last Notify Date: 05/15/1997
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 32
Install Date: 01/01/1966
Last Used Date: 01/01/1994
Product Date: 01/01/1966
Petroleum Use: Heating Oil
CERCLA Substance:
CAS Code:

Removed Date: 03/19/1997
Abandoned Material:
Abandoned Date:

Tank Fee: $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Office of the Illinois State Fire Marshal
Underground Storage Tank System

11/06/2002 08:59 AM

Facility Detail Report

Facility Number: 6-014611

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 18 Capacity: 500 Substance: Kerosene

Status: Removed
Status Date: 12/04/1996
Original Received Date: 04/24/1986
OSFM Last Notify Date: 12/04/1996
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 32
Install Date:
Last Used Date:
Product Date:
Petroleum Use: Heating Oil
CERCLA Substance:
CAS Code:

Removed Date: 01/04/1996
Abandoned Material:
Abandoned Date:

Tank Fee: $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Tank Number: 19 Capacity: 1,000 Substance: Kerosene

Status: Exempt from registratic
Status Date: 01/07/2002
Original Received Date: 04/24/1986
OSFM Last Notify Date: 12/04/1996
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 36
Install Date: 01/01/1966
Last Used Date: 10/01/1973
Product Date: 01/01/1966
Petroleum Use: Heating Oil
CERCLA Substance:
CAS Code:

Removed Date: 09/14/1995
Abandoned Material: Unknown
Abandoned Date: 07/01/1993

Tank Fee:
Fee Paid: ☐

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Office of the Illinois State Fire Marshal
Underground Storage Tank System

11/06/2002 08:59 AM

Facility Detail Report

Facility Number: 6-014611

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 20 Capacity: 1,000 Substance: Kerosene

Status: Exempt from registratic
Status Date: 12/04/1996
Original Received Date: 12/04/1996
OSFM Last Notify Date:
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 33
Install Date: 01/01/1965
Last Used Date: 03/01/1985
Product Date: 01/01/1965
Petroleum Use: Heating Oil
CERCLA Substance:
CAS Code:

Removed Date 09/14/1995
Abandoned Material Inert Materials
Abandoned Date 03/01/1985

Tank Fee:
Fee Paid: ☐

Tank Info

Construction Material:
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Tank Number: 21 Capacity: 5,000 Substance: Gasoline

Status: Exempt from registratic
Status Date: 12/04/1996
Original Received Date: 04/24/1986
OSFM Last Notify Date: 12/04/1996
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 42
Install Date: 01/01/1956
Last Used Date: 03/01/1975
Product Date: 01/01/1956
Petroleum Use:
CERCLA Substance:
CAS Code:

Removed Date: 01/05/1996
Abandoned Material: Inert Materials
Abandoned Date: 03/01/1975

Tank Fee:
Fee Paid ☐

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Office of the Illinois State Fire Marshal
Underground Storage Tank System

11/06/2002 08:59 AM

Facility Detail Report

Facility Number: 6-014611

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 22 Capacity: 10,000 Substance: Gasoline

Status: Removed
Status Date: 12/04/1996
Original Received Date: 04/24/1986
OSFM Last Notify Date: 12/04/1996
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 97
Install Date:
Last Used Date: 01/01/1976
Product Date:
Petroleum Use:
CERCLA Substance:
CAS Code:

Removed Date: 01/05/1996
Abandoned Material:
Abandoned Date:

Tank Fee: $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Tank Number: 23 Capacity: 500 Substance: Kerosene

Status: Removed
Status Date: 12/04/1996
Original Received Date: 04/24/1986
OSFM Last Notify Date: 12/04/1996
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 37
Install Date: 01/01/1961
Last Used Date: 01/01/1978
Product Date: 01/01/1961
Petroleum Use: Heating Oil
CERCLA Substance:
CAS Code:

Removed Date: 09/14/1996
Abandoned Material:
Abandoned Date: 12/31/1978

Tank Fee: $0.00
Fee Paid: ☑

Tank Info

Construction Material:
Asphalt coated or bare steel
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Office of the Illinois State Fire Marshal
Underground Storage Tank System

11/08/2002 08:59 AM

Facility Detail Report

Facility Number: 6-014611

Facility Name: Southern Il Univ/Edwardsville

Tank Number: 24 Capacity: 1,000 Substance: Kerosene

Status: Exempt from registratic
Status Date: 05/15/1997
Original Received Date: 04/24/1986
OSFM Last Notify Date: 05/15/1997
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 42
Install Date:
Last Used Date:
Product Date:
Petroleum Use: Heating Oil
CERCLA Substance:
CAS Code:

Removed Date 03/19/1997
Abandoned Material Inert Materials
Abandoned Date 03/01/1983

Tank Fee
Fee Paid: ☐

Tank Info

Construction Material:
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Tank Number: 25 Capacity: 250 Substance: Kerosene

Status: Exempt from registratic
Status Date: 08/21/1998
Original Received Date: 08/21/1998
OSFM Last Notify Date:
1998 Compliance Status: Not Checked
1998 Compliance Date: 01/01/1998
Had Release: ☐

Current Age: 34
Install Date: 01/01/1964
Last Used Date: 02/01/1971
Product Date: 01/01/1964
Petroleum Use: Heating Oil
CERCLA Substance:
CAS Code:

Removed Date: 01/29/1999
Abandoned Material:
Abandoned Date:

Tank Fee:
Fee Paid ☐

Tank Info

Construction Material:
Corrosion Protection:
Release Detection:
Spill:
Overfill Prevention:

Pipe Info

Piping Material:
Corrosion Protection:
Release Detection:
Pipe Type:

Doc. #9

HURST-ROSCHE ENGINEERS, INC.

1400 East Fremont St.
P.O. Box 130
Hillsboro, IL 62049
Telephone 217-532-3959
Facsimile 217-532-3212
E-Mail hillsboro@hurst-rosche.com
WebPage — www.hurst-rosche.com

April 30, 2003

2 PAGE FAX TRANSMISSION TO 618/650-2595

SUBJECT: Summary of UST Removals
Southern Illinois University at Edwardsville

Mr. Robert Washburn
Director of Facilities Management
Southern Illinois University at Edwardsville
Box 1039
Edwardsville, IL 62026

Dear Mr. Washburn:

Attached is a summary sheet that identifies the status of UST removals at the SIUE campus. We will mail excerpts from the January 19, 1996, Site Assessment Report referenced in Note 1; the May 20, 1997, 45-Day Report referenced in Note 3; the test results referenced in Note 4; and the April 30, 1997, 45-Day Report referenced in Note 5.

If you have any questions or require additional information, please contact our office.

Sincerely,

HURST-ROSCHE ENGINEERS, INC.

David H. Kimmie

DHK:sk

ATTN: Robert Vanzo

Post-it® Fax Note	7671	Date 4/30/03	# of pages ▶ 2
To Dave McDonald		From Bob Vanzo	
Co./Dept.		Co.	
Phone #		Phone #	
Fax # 2196		Fax #	

Summary of UST Removals
Southern Illinois University at Edwardsville
HR Job No. 26075-4

UST No.	Capacity/Contents	Location/Building	Status	Date Removed	IEMA No.	Comments
Phase I						
7116-1	500 gal fuel oil	Piano House	Removed	9/14/95	N/A	See Note 1 ~ NR
7114-1	500 gal fuel oil	Keyboard Bldg.	Removed	1/4/96	N/A	See Note 1 ~ NR
7138-1	8,000 gal gas	Q-Hut/Fine Art Bldg.	Removed	1/5/96	N/A	See Note 1
7142-1	500 gal fuel oil	String House	Removed	9/14/95	N/A	See Note 1 ~ NR
7279-1	500 gal fuel oil	Science Bldg.	Removed	1/5/96	N/A	See Note 1 ~ NR
Phase II						
7011-1	10,000 gal gas	Supporting Services	Removed	4/10/97	970615	See Note 2
7011-2	560 gal diesel	Supporting Services	Removed	4/10/97	970615	See Note 2
7011-3	2,000 gal ethanol	Supporting Services	Removed	3/26/97	N/A	See Note 3
7011-4	1,000 gal diesel	Supporting Services	Removed	3/26/97	970534	See Note 3
7011-5	500 gal (unused)	Supporting Services	Removed	3/18/97	N/A	See Note 4
7007-1	30,000 gal fuel oil	Heating Plant	Removed	3/24/97	970506	See Note 5 ~ NR
7164-1	1,000 gal kerosene	R&A Facility	Removed	3/19/97	N/A	See Note 4
7115-1	500 gal kerosene	Faculty Club	Removed	3/19/97	N/A	See Note 4
Phase III						
7001-1	550 gal diesel	Library Loading Ramp	Abandoned in Place	N/A	N/A	
7001-2	250 gal diesel	Library	Abandoned in Place	N/A	N/A	
7003-1	8,000 gal diesel	Science Bldg.	Removed	7/9/98	N/A	See Note 6
7003-2	1,000 diesel	Science Bldg.	Removed	7/9/98	N/A	See Note 6
7006-1	8,000 gal diesel	University Center	Abandoned in Place	N/A	N/A	
7008-1	8,000 gal diesel	Communications Bldg.	Abandoned in Place	N/A	N/A	
—	250 gal fuel oil	Cougar Village Office	Removed	2/1/99	N/A	See Note 6 ~ NR

Notes

1. The OSFM representative did not classify these sites. Soil samples were collected from the floor of the excavations and analyzed. Test results have been presented in a Site Assessment Report dated 1/19/96. This report was submitted to the Owner.
2. A Free Product Report was submitted to the IEPA on 5/20/97. A 45 Day Report was submitted to the IEPA on 5/29/97. Site Classification Completion Reports were submitted to the IEPA on 5/2/98, 10/19/99, and 3/21/00. These reports were subsequently denied by IEPA. The IEPA requested that the extent of site contamination be identified. To date, 28 borings have been completed at the site and 4 monitor wells have been installed in incremental stages. At this time, additional borings and an additional monitor well are needed to confirm the extent of site contamination. The results of the investigation will be submitted to the IEPA.
3. Contaminated soil was removed at this site and confirmation sampling completed. The results of this testing were submitted to the IEPA in a 45 Day Report, dated 5/20/97.
4. The OSFM representative did not identify contamination at these sites. Confirmation sampling and analyses were completed, and test results have been retained in the project file.
5. Contaminated soil was removed at this site and confirmation sampling completed. The results of this testing were submitted to the IEPA in a 45 Day Report, dated 4/30/97.
6. The OSFM representative classified these sites as NFA. No confirmation sampling or analyses were completed for these sites.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

HRE-8J

June 25, 1992

Mr. Dave McDonald
Southern Illinois University
Box 1652
Edwardsville, IL 62026

Re: Southern Illinois University
Edwardsville, IL 62026
ILD 006 331 342

Dear Mr. McDonald:

As indicated in the letter of introduction sent to you on January 6, 1992, the U.S. Environmental Protection Agency is enclosing a copy of the final Preliminary Assessment/Visual Site inspection (PA/VSI) report for the referenced facility. The executive summary and conclusions and recommendations sections have been withheld as Enforcement Confidential.

If you have any questions, please call Francene Harris at (312) 886-2884.

Sincerely yours,

Francene M. Harris

Kevin M. Pierard, Chief
Minnesota/Ohio Technical Enforcement Section
RCRA Enforcement Branch

PRC Environmental Management, Inc.
233 North Michigan Avenue
Suite 1621
Chicago, IL 60601
312-856-8700
Fax 312-938-0118

PRELIMINARY ASSESSMENT/ VISUAL SITE INSPECTION

SOUTHERN ILLINOIS UNIVERSITY SCIENCE BUILDING EDWARDSVILLE, ILLINOIS ILD 006 331 342

FINAL REPORT

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460

Work Assignment No.	:	C05087
EPA Region	:	5
Site No.	:	ILD 006 331 342
Date Prepared	:	May 11, 1992
Contract No.	:	68-W9-0006
PRC No.	:	009-C05087
Prepared by	:	PRC Environmental Management, Inc. (Hans Upadhyay)
Contractor Project Manager	:	Shin Ahn
Telephone No.	:	(312) 856-8700
EPA Work Assignment Manager	:	Kevin Pierard
Telephone No.	:	(312) 886-4448

EXECUTIVE SUMMARY

PRC Environmental Management, Inc. (PRC), performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the Southern Illinois University, Science Building (SIUSB) facility in Edwardsville, Illinois. This report summarizes the results of the PA/VSI and evaluates the potential for releases of hazardous wastes or hazardous constituents from the SWMUs identified. In addition, a completed U.S. Environmental Protection Agency (EPA) Preliminary Assessment Form (EPA Form 2070-12) is included in Attachment A to assist in prioritization of RCRA facilities for corrective action.

The SIUSB facility is owned by the State of Illinois and operated by Southern Illinois University at Edwardsville (SIU). In this facility, students conduct teaching-related laboratory experiments under the supervision of laboratory instructors and professors. The facility operates on part of the ground, first, and second floors of the Science Building that have a total floor area of 166,528 square feet.

SIUSB generates, treats, and stores hazardous wastes on site. Hazardous wastes are generated from chemistry experiments in six laboratories on the second floor of the Science Building. These wastes are moved to the waste treatment room located on the first floor of the Science Building. The treatments include solvent distillation, metal precipitation, neutralization, evaporation, oxidation, reduction, and other special chemical treatment. Residues from treatment process and the untreated wastes are taken to the facility's Waste Container Storage Area that is located on the ground floor of the Science Building. From here, this waste is periodically shipped to approved facilities for further handling.

SIUSB facility also accepts manifested waste for storage from SIU's Physical Plant facility. These two facilities are separated by a highway; therefore, the Physical Plant has a separate EPA identification number for operating as a small-quantity generator and as transporter of hazardous waste.

SIUSB handles 10 hazardous and two nonhazardous waste streams. The hazardous waste streams include waste methylene chloride (EPA waste codes D001 and F002), waste benzene (D001 and F002), waste pyridine with chromium (F005 and D007), waste acetone (F003), waste alcohol (F003), waste toxic solids (D004, D005, and D007 through D009), waste acids (D002), waste alkalies (D002), waste acid with metals (D002 and D004 through D010), and waste methanol (F003). Waste methanol is received from SIU's Physical Plant facility; the remaining nine hazardous waste streams are generated at the SIUSB facility.

Facility's nonhazardous waste streams include laboratory wastes and plastic, cardboard, and foam wastes. These wastes are generated, respectively, from laboratory experiments and unpacking shipments.

The PA/VSI identified the following four SWMUs at the facility:

Solid Waste Management Units

1. Satellite Accumulation Areas
2. Waste Treatment Area
3. Waste Container Storage Area
4. General Refuse Accumulation Area

The current potential for a release from all the SWMUs is low. The possibility that releases occurred to the environment in the past is also low. These conclusions are discussed below.

The SWMUs pose a low potential for release to (1) ground water, (2) surface water, and (3) on-site soil because these SWMUs are adequately contained on a concrete floor inside a building. Furthermore, no reports of releases migrating off-site have been recorded. In February 1990, 2 gallons of hazardous waste is known to have spilled on the concrete floor of the Waste Container Storage Area. This waste was immediately cleaned up via absorption, and the floor was thoroughly cleaned. The likelihood of this spill impacting (1) ground water, (2) surface water, and (3) soil is low. The soils under the facility are chiefly silt and till that would retard the downward migration of any contaminated waters from the facility; therefore, it is unlikely that the ground water will be impacted.

The SWMUs pose a low potential for release to air because the waste containers are kept closed. Moreover, there are no recorded cases of hazardous waste related health problems among students or employees at the facility.

Ground water is used as a drinking water supply in the area. The closest drinking water wells occur as a cluster about 3.5 miles west of the facility. Even though ground water flows towards the west, it is unlikely that any contamination from the facility will reach these wells because of the low permeability of the silt and till layers that underlie the facility. A 30-acre wetland is located about 3.5 miles southwest of the facility. Waste management activities at the facility will have minimal impact on this wetland because the surface water from the facility will be captured by Cahokia Creek before it reaches the wetland and ground water flow will be severely retarded by the low-permeability soils. The facility has adequate security. The Science

Building is regularly patrolled by campus police. Unsupervised persons are not allowed in any of the SWMUs.

The facility has submitted a RCRA closure plan for the Waste Treatment Area and Waste Container Storage Area to the Illinois Environmental Protection Agency (IEPA) in December 1991. The facility is awaiting response from IEPA.

No further action is recommended at any of the SWMUs.

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LIST OF FIGURES

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. C05087 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading-unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility.
- Obtain information on the operational history of the facility.
- Obtain information on releases from any units at the facility.
- Identify data gaps and other informational needs to be filled during the VSI.

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA.
- Identify releases not discovered during the PA.
- Provide a specific description of the environmental setting.
- Provide information on release pathways and the potential for releases to each medium.
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases.

The VSI includes interviewing appropriate facility staff, inspecting the entire facility to identify all SWMUs and AOCs, photographing all SWMUs, identifying evidence of releases, initially identifying potential sampling locations, and obtaining all information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the Southern Illinois University, Science Building (SIUSB) facility in Edwardsville, Illinois. The PA was completed on January 6, 1992. PRC gathered and reviewed information from the Illinois Environmental Protection Agency (IEPA) and from EPA Region 5 RCRA files. The VSI was conducted on January 8, 1992. It included interviews with a facility representative and a walk-through inspection of the facility. Four SWMUs and no AOCs were identified at the facility.

PRC completed EPA Form 2070-12 using information gathered during the PA/VSI. This form is included in Attachment A. The VSI is summarized and four inspection photographs are included in Attachment B. Field notes from the VSI are included in Attachment C.

2.0 FACILITY DESCRIPTION

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, history of documented releases regulatory history, environmental setting, and receptors.

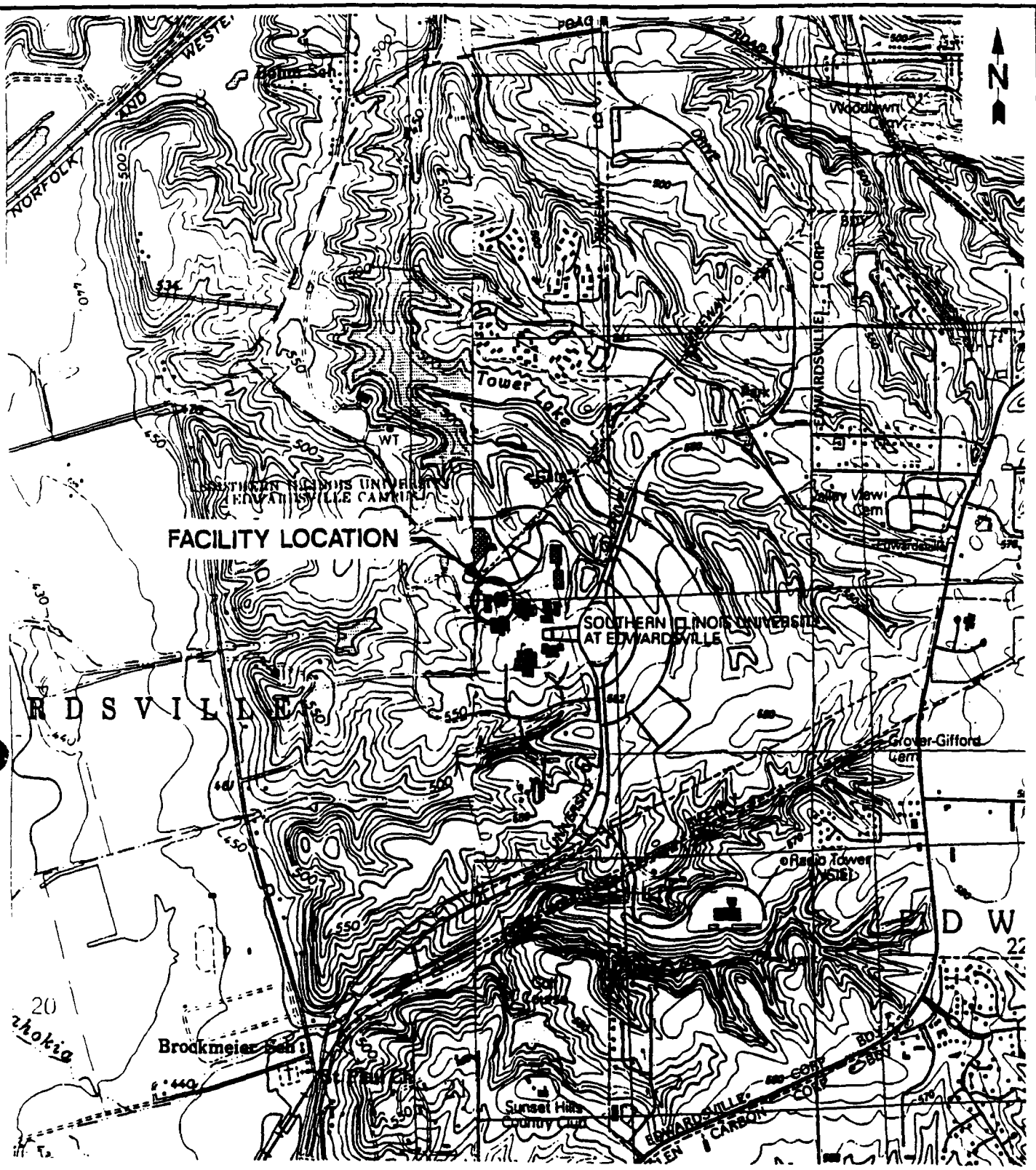
2.1 FACILITY LOCATION

The SIUSB facility is located on Route 157 in Edwardsville, Madison County, Illinois (latitude 38° 47' 41" N and longitude 89° 59' 56" W), as shown in Figure 1. The facility occupies 1.5 acres in the midst of Southern Illinois University (SIU). For a distance of about 100 feet, the facility is surrounded by grassy areas in all directions. Beyond the grassy areas lie the following buildings or university facilities: Lovejoy Library building to the east, the communications building to the south, and parking lots to the west and the north. The major highways near the facility are Interstate 270 to the south, Route 157 to the southeast, and Poag Road to the north. The nearest settlement is the town of Edwardsville, which is located about 2 miles east of the facility. An apartment complex used to house SIU students is located about 3,000 feet north of the facility. The SIU campus is surrounded by farms and other open lands.

2.2 FACILITY OPERATIONS

The facility conducts teaching-related experiments as part of SIU's chemistry curriculum. The facility has been operating at its current location since 1967. It is owned and operated by the State of Illinois. It currently employs about 100 people. The facility operates on parts of the Science Building's ground, first, and second floors. The facility's total area is 166,528 square feet.

The facility conducts teaching-related chemistry experiments in laboratories located on the second floor of the Science Building. Various wastes resulting from these experiments are brought to a room on the first floor of the building where some of the wastes are subjected to various treatment. All the hazardous wastes are then moved to the Waste Container Storage Area (SWMU 3), located on the ground floor of the facility. From SWMU 3, the wastes are removed off site for further handling. The Science Building also receives manifested hazardous wastes from SIU's Physical Plant facility for storage in SWMU 3. The Physical Plant facility is a small-quantity generator of hazardous waste. It is separated from the Science Building by a highway and has a separate EPA identification number.



SCALE 1:24000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

SCALE 1"=2,000'

SOURCE: MODIFIED FROM USGS, 1974 AND 1991

SOUTHERN ILLINOIS UNIVERSITY, SCIENCE BUILDING
EDWARDSVILLE, ILLINOIS

FIGURE 1

FACILITY LOCATION

PRC ENVIRONMENTAL MANAGEMENT, INC.

SIU-1.DWG — 03/13/9 CER — 008-C0508ZILJA

The wastes from the Physical Plant facility are transported to the Science Building by SIU. SIU has an EPA hazardous waste transporter identification number.

SIU also operates a wastewater treatment plant (WWTP) on campus. This plant is located about 1,500 feet north of the Science Building. This VSI report deals only with SIU's Science Building facility.

A total of four SWMUs and no AOCs were identified during the VSI. SWMUs are identified in Table 1, and their locations are shown in Figure 2.

Chemistry experiments are carried out in six rooms (numbered SL-2210, SL-2212, and SL-2215 through 2218) located on the second floor of the Science Building. After each experiment, the resulting wastes are accumulated in 1-gallon containers in these rooms. In this report, these rooms have been referred to as the Satellite Accumulation Areas (SAA) (SWMU 1). The containers are labeled, showing the content, date of generation, and room number.

Once a week, the 1-gallon containers of waste are moved from SWMU 1 by chemistry graduate students and delivered to the Waste Treatment Area (SWMU 2) in room SL-1209. This area is located on the first floor of the facility. The treatment of hazardous wastes is conducted by the graduate students of Dr. Antony Wilbraham, director of SIUSB's waste management program. The facility has been treating waste in this room since 1981. The waste is treated within 30 days of generation.

Soon after the wastes arrive in the treatment room, a log-in sheet is completed for each container. The log-in sheet includes the arrival date, volume, weight, pH, room number of source laboratory, planned treatment, completion date, and storage status of every waste. Dr. Wilbraham's students use a lab-top volume entitled Hazardous Waste Management Group, Waste Treatment Handbook. This volume was prepared by SIU graduate students A.F. Davis and G.W. Franklin (Davis and Franklin, 1991). The volume contains information extracted from publications by the National Academy Press (NAP, 1983) and Flinn Scientific, Inc. (FSI, 1990). It gives procedures for handling incoming and outgoing wastes, various treatment methodologies, classification of unknown wastes, and emergency response procedures. Since the wastes are generated by the laboratory experiments in the classroom, the exact constituents of the wastes are known.

The following five types of treatment activities, at the indicated rates, are performed in the treatment room: (1) solvent distillation (2 to 5 gallons per day), (2) metal precipitation (1 to 5 gallons per day), (3) neutralization (1 to 5 gallons per day), (4) evaporation (1 to 2 gallons per

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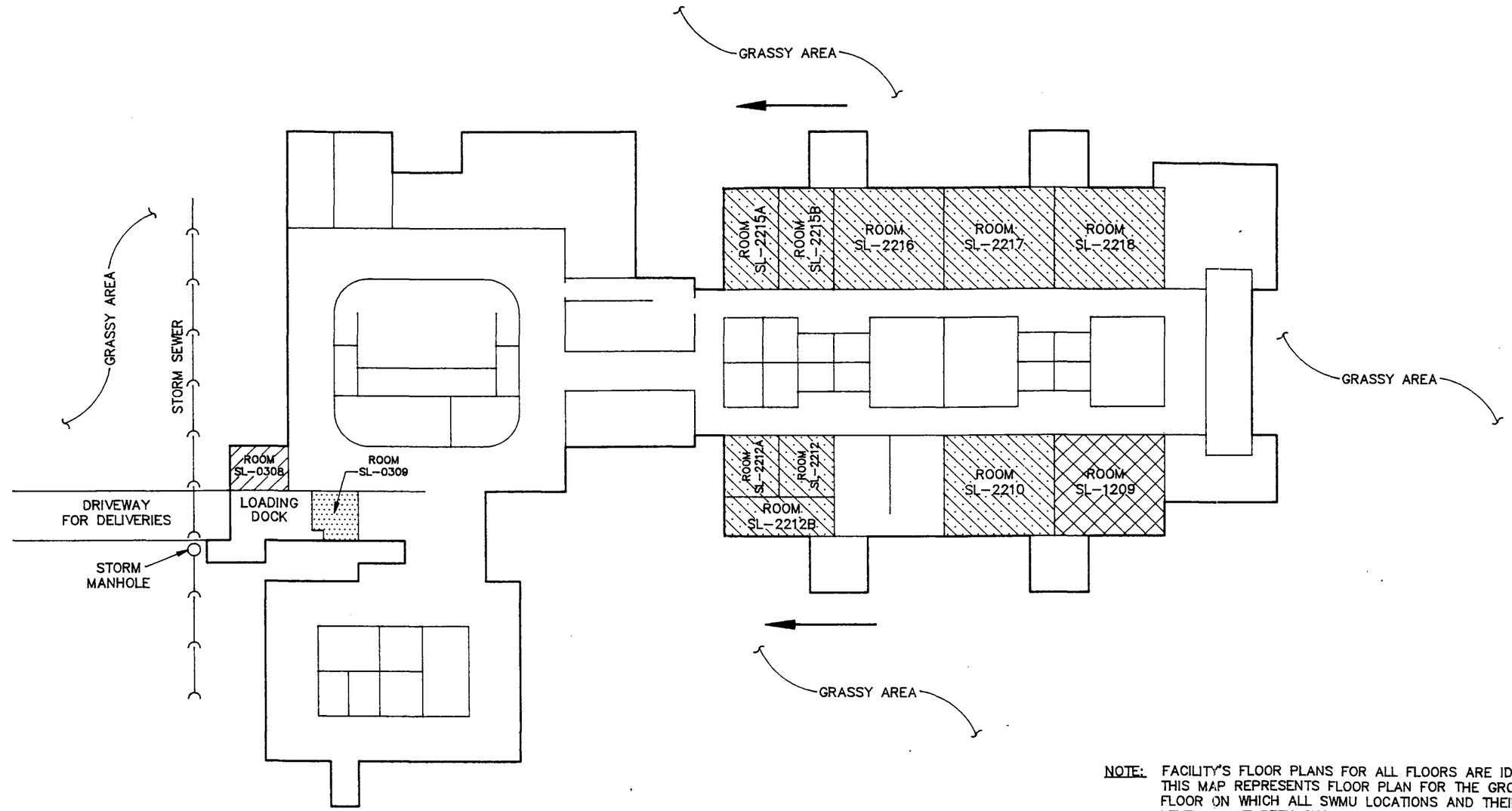
Soon after the wastes arrive in the treatment room, a log-in sheet is completed for each container. The log-in sheet includes the arrival date, volume, weight, pH, room number of source laboratory, planned treatment, completion date, and storage status of every waste. Dr. Wilbraham's students use a lab-top volume entitled Hazardous Waste Management Group, Waste Treatment Handbook. This volume was prepared by SIU graduate students A.F. Davis and G.W. Franklin (Davis and Franklin, 1991). The volume contains information extracted from publications by the National Academy Press (NAP, 1983) and Flinn Scientific, Inc. (FSI, 1990). It gives procedures for handling incoming and outgoing wastes, various treatment methodologies, classification of unknown wastes, and emergency response procedures. Since the wastes are generated by the laboratory experiments in the classroom, the exact constituents of the wastes are known.

The following five types of treatment activities, at the indicated rates, are performed in the treatment room: (1) solvent distillation (2 to 5 gallons per day), (2) metal precipitation (1 to 5 gallons per day), (3) neutralization (1 to 5 gallons per day), (4) evaporation (1 to 2 gallons per



NOTE: FACILITY'S FLOOR PLANS FOR ALL FLOORS ARE IDENTICAL. THIS MAP REPRESENTS FLOOR PLAN FOR THE GROUND FLOOR ON WHICH ALL SWMU LOCATIONS AND THEIR FLOOR LEVELS HAVE BEEN SHOWN.

LEGEND

- SWMU 1 SATELLITE ACCUMULATION AREAS (SECOND FLOOR)
- SWMU 2 WASTE TREATMENT AREA (FIRST FLOOR)
- SWMU 3 WASTE CONTAINER STORAGE AREA (GROUND FLOOR)
- SWMU 4 GENERAL REFUSE ACCUMULATION AREA (GROUND FLOOR)
- FLOW DIRECTION OF SURFACE WATER

20' 0 20' 40'
SCALE: 1" = 40'

SOURCE: MODIFIED FROM SIUSB, 1992

SOUTHERN ILLINOIS UNIVERSITY, SCIENCE BUILDING
EDWARDSVILLE, ILLINOIS

FIGURE 2
FACILITY LAYOUT

ENVIRONMENTAL MANAGEMENT, INC.

SIU-2.DWG - 03/30/ CFR - 009-C05087L3A

TABLE 1

SOLID WASTE MANAGEMENT UNITS (SWMU)

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit*	Status
1	Satellite Accumulation Areas	No**	Active
2	Waste Treatment Area	Yes	Active
3	Waste Container Storage Area	Yes	Active
4	General Refuse Accumulation Area	No	Active

Note:

* A RCRA hazardous waste management unit is one that currently requires or formerly required a RCRA Part A or Part B permit.

** This SWMU does not constitute a RCRA hazardous waste management unit because in this unit the waste is accumulated for less than 90 days.

day), and (5) oxidation, reduction, and other special chemical treatment (0.1 to 0.5 gallon per day).

Waste treatment residue and those wastes that cannot be treated in SWMU 2 are taken to the Waste Container Storage Area (SWMU 3) in room SL-0308. This area is on the ground floor. Once at SWMU 3, waste is transferred into 55-gallon drums. When full, these drums are sealed and periodically moved to an off-site approved facility for further handling.

The facility accumulates nonhazardous waste in the General Refuse Accumulation Area (SWMU 4) in room SL-0309 on the ground floor of the Science Building. This waste includes nonhazardous laboratory wastes, plastic, cardboard, and foam waste that are generated, respectively, from laboratory experiments and unpacking shipments.

The facility has an 8,000-gallon underground storage tank containing fuel oil just outside the southeastern corner of the Science Building. This tank provides fuel to a back-up generator (McDonald, 1992).

2.3 WASTE GENERATING PROCESSES

The SIUSB facility handles 12 solid waste streams, 10 hazardous and two nonhazardous. Waste streams, EPA codes, sources, and SWMUs are listed in Table 2.

Hazardous waste streams handled by the SIUSB facility include waste methylene chloride (EPA waste codes D001 and F002), waste benzene (D001 and F002), waste pyridine with chromium (F005 and D007), waste acetone (F003), waste alcohol (F003), waste toxic solids (D004, D005, and D007 through D009), waste acids (D002), waste alkalies (D002), waste acid with metals (D002 and D004 through D010), and waste methanol (F003). The facility receives waste methanol from SIU's Physical Plant facility for storage and generates the remaining nine hazardous wastes at the Science Building facility.

Nine hazardous waste streams are generated from teaching-related laboratory experiments as part of SIU's chemistry curriculum. These wastes are accumulated in six Satellite Accumulation Areas, grouped together as SWMU 1. The wastes are accumulated inside the same laboratories in which they are generated. Once a week, these wastes are moved to the Waste Treatment Area (SWMU 2). After treatment, the reclaimed portion of the waste is retained for reuse. The neutralized portion is flushed into the drain, and the hazardous portion is moved to the Waste Container Storage Area (SWMU 3), located in room SL-0308 at the facility. From SWMU 3, these wastes are periodically shipped off site to an approved facility for further handling.

TABLE 2
SOLID WASTES

Waste/EPA Waste Code	Source	Primary Management Unit
Waste Methylene Chloride/ D001 and F002	Teaching-Related Laboratory Experiments	1, 2, and 3
Waste Benzene/D001 and F002	Teaching-Related Laboratory Experiments	1, 2, and 3
Waste Pyridine with Chromium/ F005 and D007	Teaching-Related Laboratory Experiments	1, 2, and 3
Waste Acetone/F003	Teaching-Related Laboratory Experiments	1, 2, and 3
Waste Alcohol/F003	Teaching-Related Laboratory Experiments	1, 2, and 3
Waste Toxic Solids/ D004, D005, and D007 through D009	Teaching-Related Laboratory Experiments	1, 2, and 3
Waste Acids/D002	Teaching-Related Laboratory Experiments	1, 2, and 3
Waste Alkalies/D002	Teaching-Related Laboratory Experiments	1, 2, and 3
Waste Acid with Metals/D002 and D004 through D010	Teaching-Related Laboratory Experiments	1, 2, and 3
Waste Methanol/F003	Received from SIU's Physical Plant Facility	3
Laboratory Wastes/NA**	Laboratory Experiments	4
Waste Plastic, Cardboard, and Foam/NA	Unpacking of Shipments	4

Notes:

* Primary management unit refers to the SWMU that currently manages or formerly managed the waste.

** NA (Non-applicable) designates nonhazardous waste.

In 1991, SIUSB generated the following quantities of the nine hazardous wastes: waste methylene chloride and waste benzene, total 220 pounds; waste pyridine with chromium, 1 pound; waste acetone and waste alcohol, total 165 pounds; toxic solids, 12 pounds; acids and alkalies, 320 pounds; and acid with metals, 329 pounds (SIUSB, 1992). SIUSB did not receive any hazardous waste from SIU's Physical Plant facility in 1991 but in 1990 it received 8 gallons of waste methanol (F003) for storage. Waste methylene chloride, and benzene, waste acetone, waste alcohol, and waste methanol were shipped to Reneco Chemical Industries of Benton, Arkansas (U.S. EPA ID No. ARD 981 057 870); waste pyridine with chromium, waste toxic solids, and the metals precipitated from waste acid were shipped to Environmental Enterprises, Inc. of Cincinnati, Ohio (U.S. EPA ID No. OHD 083 377 010). Waste acid and waste alkalies were neutralized at the facility and discharged into the drain.

The nonhazardous waste streams include laboratory waste and plastic, cardboard, and foam generated respectively by laboratory experiments and unpacking shipments. The nonhazardous laboratory waste includes paper, plastic, and glass. The facility accumulates these wastes in room SL-0309, the General Refuse Accumulation Area (SWMU 4), which is located on the ground floor of the Science Building. The facility did not have any records of the rates of generation for these wastes. At the time of the VSI, the facility had accumulated approximately 20 cubic yards of this waste. This waste is picked up once a week and disposed of in the Laidlaw Landfill in Edwardsville, Illinois (McDonald, 1992).

2.4 HISTORY OF DOCUMENTED RELEASES

This section discusses the history of documented releases to ground water, surface water, air, and on-site soils at the SIUSB facility.

One release to various environmental media has occurred at the SIUSB facility. During an inspection by a U.S. EPA representative on February 14, 1990, a 5-gallon pail of waste labelled "nonhalogenated solvents only" was found leaking on the floor of the Waste Container Storage Area (SWMU 3). Approximately 2 gallons were released. At the time of the inspection, the spill was being contained by a clayey absorbent material. However, it was evident that the spill initially began on a lower wooden shelf inside the storage room. A wet stain was evident where the 5-gallon pail was initially placed. Although, the pail was still leaking at the time of the inspection, the leak was contained by the clayey absorbent material (U.S. EPA, 1990). The spill occurred on a concrete floor and was later completely cleaned. PRC inspectors did not observe any floor drains in the Waste Container Storage Area at the time of the VSI.

2.5 REGULATORY HISTORY

The SIUSB facility operates as a RCRA treatment, storage, or disposal (TSD) facility. SIUSB stores and treats hazardous wastes under process codes S01 and T04, respectively. The facility did not submit a RCRA Part B permit application and will undergo RCRA closure (IEPA, 1991a). The facility submitted a closure plan for its RCRA storage and treatment units to IEPA on December 20, 1991. The facility has requested that its status be changed from a TSD facility to a small-quantity generator of hazardous waste (SIUSB, 1991). The facility is still waiting for IEPA's approval of the closure plan.

SIU submitted its first notification of hazardous waste activities pertaining to operations at its Science Building facility on January 7, 1987. In this notification, SIU classified the facility as a TSD facility for D000 through D003, and F001 through F005 RCRA-listed wastes (SIUSB, 1987a). SIU had also submitted its first notification of hazardous waste activities pertaining to operations at its Physical Plant facility on December 3, 1986. In this notification, SIU classified the facility as a small-quantity generator (SQG) of D000 through D003, and F001 through F005 RCRA-listed wastes (SIU, 1986). The Science Building and Physical Plant facilities were assigned separate Illinois and U.S. EPA identification numbers. However, until May 21, 1987, both SIUSB and IEPA erroneously switched the identification numbers and waste management activities of the Science Building facility with those of its Physical Plant facility. IEPA clarified this confusion on May 21, 1987 and reidentified the correct U.S. EPA identification number of the Science Building facility (IEPA, 1987a).

SIU submitted a RCRA Part A Hazardous Waste Permit Application on March 23, 1987. This application indicated that the Science Building was a TSD facility (SIUSB, 1987b). The application also listed process codes for the container storage (S01) and treatment (T04) of a total of 13,537 pounds of D000 through D003 RCRA-listed wastes per year. The General Information form, which was appended to the March 23, 1987, Part A permit application, was dated March 23, 1984. It appears the 1984 date may be an error. The facility has not modified its original Part A permit application since submitting it.

The facility has undergone RCRA compliance inspections by IEPA and by U.S. EPA. Two IEPA inspections were held in July 1986 and February 1987. Five U.S. EPA inspections were held in September 1987, May 1988, May 1989, February 1990, and February 1991. During these inspections the facility was cited for violations pertaining to waste characterization, analysis of and manifests for the wastes received from the Physical Plant facility, written analysis plan, inspection records, training program, submittal of annual reports, proper labelling practices, arrangements with local authorities, and failure to file a RCRA Part A permit application. The

facility corrected these violations and returned to compliance in a timely manner with the exception of filing a Part A permit application. The facility could not obtain interim status because it did not file a Part A permit application within 30 days of accepting the first drum of hazardous waste from the Physical Plant facility (ILD 981 801 491). However, this delay was caused by IEPA's inability to determine if the Physical Plant and the Science Building were two separate facilities until well after this 30-day period (IEPA, 1987b). IEPA therefore requested that U.S. EPA issue a Compliance Order granting the Science Building interim status for storage of wastes accepted from the Physical Plant facility (IEPA, 1987c). There are no records showing that IEPA's request was approved by U.S. EPA. Therefore, IEPA asked SIUSB to file a RCRA Part B permit application. After this, IEPA considered the Part A permit requirement violation resolved (IEPA, 1991b).

The facility has recently submitted a closure plan for its Waste Treatment Area (SWMU 2) and Waste Container Storage Area (SWMU 3) (SIUSB, 1991). After these units are closed, the facility plans to withdraw its Part A permit application and operate as a small-quantity generator.

The SIUSB facility has never had National Pollutant Discharge Elimination System (NPDES) permits or air permits. No Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) activities ever took place at the facility.

2.6 ENVIRONMENTAL SETTING

This section describes the climate, flood plain and surface water, geology and soils, and ground water in the vicinity of the SIUSB facility.

2.6.1 Climate

Edwardsville and the rest of the Madison County, Illinois, experience weather conditions typical of the midwestern United States. In winter, the average temperature is 31° F, and the average daily minimum temperature is 23 ° F. In summer, the average temperature is 77° F, and the average daily maximum temperature is 87° F (USDA, 1986).

The total annual precipitation averages 36.82 inches. Of this, 22 inches, or 60 percent, usually falls in April through September. The maximum 1-year, 24-hour rainfall is 4.68 inches. Thunderstorms occur approximately 50 times each year. The average seasonal snowfall is about 16 inches. The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn in about 80 percent. The prevailing wind is from the south. Average windspeed is highest (11 miles per hour) in summer (USDA, 1986).

2.6.2 Flood Plain and Surface Water

The SIUSB facility is not located in a 100-year flood plain area (FEMA, 1982). The nearest surface water body, Tower Lake, is located 1,500 feet north of the facility and is used for recreational purposes. This lake is a reservoir built by damming an unnamed creek and has a controlled outlet towards the north through which it discharges into Cahokia Creek. Cahokia Creek flows westward and ultimately empties into the Mississippi River, approximately 5 miles west of the facility.

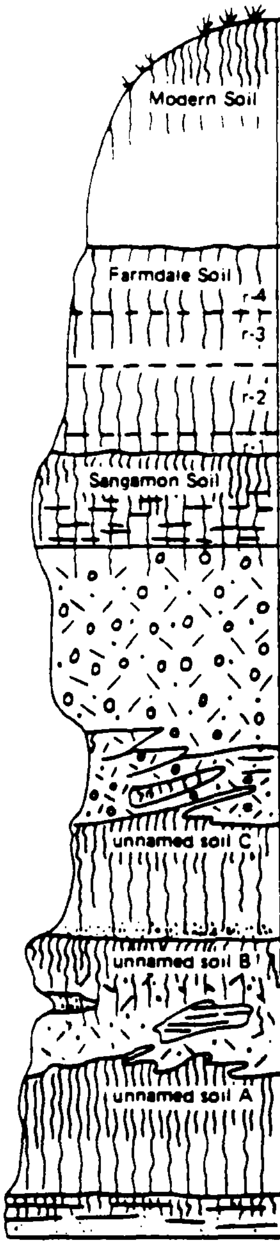
Surface water drainage at the facility is to the west towards a small creek, which is also named Cahokia Creek. This creek merges into the Cahokia Diversion Channel and ultimately empties into the Mississippi River. The surface waters from the facility first flow towards the west and then are channeled into the storm drain pipes through an intake located near the western edge of the facility (Figure 2). The storm drain pipes channel these waters west, where they ultimately discharge into the Mississippi River. There are no drainage ditches at the facility (Ozanich, 1992).

The major water body in the area is the Mississippi River, which is located 5 miles west of the facility. The nearest wetland is located about 3.5 miles southwest of the facility.

2.6.3 Geology and Soils

Published geological information available for the facility describes regional rather than site-specific conditions. Geological data available for the town of Maryville, located approximately 4 miles southeast of the facility, shows that the area is underlain by unconsolidated glacial deposits, windblown loess, and a silty unit of the Pleistocene age. The bedrocks under this unconsolidated sequence are Pennsylvanian-age siltstones and sandstones of the Modesto Formation (ISGS, 1979). A geological cross section for the area is shown in Figure 3.

The unconsolidated material in the area is approximately 80 feet thick and comprises six distinct lithologic units, two each, of loess, silt, and till. The Burdick loess is the oldest Pleistocene deposit in this area. It is up to 15 feet thick and consists of silty clay loam. The Omphghent till overlies the Brudick loess and is made up of sand, silt, and clays, with an average thickness of 12 feet. It contains many inclusions of siltstone, sandstone, and shale. The



Peoria Loess		Loess, dolomitic light brownish gray (10YR 6/2) to light yellowish brown (10YR 5/4) coarse silt; Modern Soil in upper part leached to 2.5 m below ground surface; base gradational with underlying unit.	4.5 to 5.0
Roxana Silt		Loess, leached coarse silt to silt loam with four color zones: r-4, brown (7.5YR 5/3) 1.4 m thick, r-3, dark brown (10YR 4/3) 1.1 m thick, r-2, brown (7.5YR 5/4) 1.6 m thick, and r-1, yellowish brown (10YR 5/3) 0.4 m thick; lower 0.2 m of zone r-3 contains dolomite.	4.0 to 4.5
Glasford Formation	Berry Clay M	Silt, leached silty clay loam; gleyed profile of Sangamon Soil.	0 to 4.5
Glasford Formation	"Fort Russell till"* M	Till, calcareous massive loam texture oxidized to yellowish brown (10YR 5/4) and light yellowish brown (10YR 6/4); unoxidized dark gray (5Y 4/1) at base in core MV8. upper part of unit leached; lower part contains sheared silt from underlying unit.	5.0 to 7.0
"Chinatown silt"*		Silt, leached massive silty clay loam to silt loam; strong brown (7.5YR 5/5) in upper part grades to yellowish brown (10YR 5/5); profile of unnamed soil C truncated into B horizon; gradational increase in sand and clay in lower 0.5 m.	0.9 to 2.5
"Omphghent till"*		Till; leached in upper 2.1 m; unnamed soil profile B; lower part massive silty clay loam calcareous, oxidized to light olive brown (2.5Y 5/4) grading to gleyed olive (5Y 5/3) at base; many silt and sand, inclusions; large shale blocks.	3.6 to 4.5
"Burdick loess"*		Loess; leached; massive; strongly developed profile of unnamed soil A; yellowish brown (10YR 5/4) silt loam A horizon (.5 m), strong brown (7.5YR 5/5) silty clay loam B2 (2.0 m); unit thickest in core MV6 (5.0 m).	2.5 to 5.4
Pennsylvanian		Siltstone; non-calcareous, thinly bedded, micaceous; residual soil developed in upper part.	

*Informal names introduced in this report

NOTE: THE NUMBERS IN THE LAST COLUMN REPRESENT THICKNESSES OF CORRESPONDING UNITS IN METERS

SOURCE: MODIFIED FROM ISGS, 1979

SOUTHERN ILLINOIS UNIVERSITY, SCIENCE BUILDING
EDWARDSVILLE, ILLINOIS

FIGURE 3

GEOLOGICAL CROSS SECTION

PRC ENVIRONMENTAL MANAGEMENT, INC.

SIU-310WG – 03/18/8? CFR – 009–C0508?13A

Chinatown silt overlies the Omphghent till and is overlain by the Fort Russel till. It is up to 5 feet thick and contains high amounts of expandable clays.

The Fort Russel till is up to 20 feet thick and consists of an upper oxidized yellowish brown horizon and a lower unoxidized dark gray horizon. Roxana silt and Peoria loess are the two uppermost units with average thickness of 13 and 14.5 feet, respectively. Roxana silt consists of coarse silt to silt loam and displays four color zones.

The Peoria loess is the uppermost unit in which modern soil is leached to 7.5 feet below ground surface. It is made up of dolomitic coarse silt of brownish gray to yellowish brown colors.

2.6.4 Ground Water

Ground water under the facility occurs within thin beds of sand and gravel near the base of the till. The loess-till contact zones also make good aquifers. The depth to the water table around SIUSB varies from 20 to 30 feet below ground surface (ISGS, 1932 to 1978). Wells located 1 mile west of the facility and beyond penetrate mostly through sand and gravel. Here, the depth to the static water table is approximately 34 feet below ground surface. The nearest well is located about one mile south of the facility and is used for irrigation purposes (Ozanich, 1992). Ground water in the area flows towards the west (Kalimuthu, 1992).

There is no record of ground-water contamination at or near the facility.

2.7 RECEPTORS

The SIUSB facility is part of a university campus, located in a semi-rural area, about 2 miles west of the City of Edwardsville. The population of the City Edwardsville is about 14,000. The facility is bordered by a 100-foot wide stretch of grassy area which, in turn, is surrounded by other buildings and parking lots of SIU. The campus is surrounded by farms and other open lands. The nearest schools are Metro East High School and two unnamed junior and senior high schools. Metro East High School is 2 miles southeast of the facility. The two unnamed schools are located 2 miles northeast of the facility. The nearest residences are the SIU apartment complexes located about 3,000 feet north of the facility. Approximately 2,000 students are housed in this complex (McDonald, 1992). Downstream water (Cahokia Creek) is not used for either recreation, irrigation, or human consumption; it is used for cooling off condensers that are periodically brought in from SIU's Physical Plant. Tower Lake, located about 1,300 feet north of the facility, is also not used for recreation, irrigation, or human consumption (Ozanich, 1992).

Ground water is used as a drinking water supply in the area. All the drinking water for the SIU campus and for the City of Edwardsville comes from five wells that are located near the town of Poag, about 3 miles west and downgradient of the facility. These wells, which are the drinking water wells nearest the SIUSB facility, form a cluster within a few thousand feet of one another and have an average depth of 120 feet. Static water table is located about 34 feet below ground surface (Priester, 1992).

The nearest wetland, about 30 acres in area, is located about 3.5 miles southwest of the facility.

Access to the site is via University Drive. The Science Building is locked between 11 p.m. and 6 a.m. The facility is frequently patrolled by campus police.

The Satellite Accumulation Areas (SWMU 1), the Waste Treatment Area (SWMU 2), and the Waste Container Storage Area (SWMU 3) are located indoors. When not in use, these SWMUs are kept locked. Environmental coordinators and laboratory instructors allow only the authorized individuals inside these units. Students who conduct experiments in SWMU 1 are thoroughly briefed on safety precautions. There are no records of work-related health problems experienced by students or employees at the facility.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the four SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and PRC observations.

SWMU 1	**Satellite Accumulation Areas**
Unit Description:	This unit is located on the second floor of the Science Building. It is used to conduct teaching-related laboratory experiments in chemistry and to accumulate hazardous wastes. It comprises six separate laboratories. Each of these laboratories has a dimension of 42 feet by 42 feet. The walls of the laboratories consist of drywall construction material. The floor is covered with ceramic tiles. Each laboratory has bench space for approximately 20 students. Hazardous wastes generated from laboratory experiments are kept in 1-gallon containers and accumulated on a bench-top at the corner of each laboratory (see Photo No. 1).
Date of Startup:	This unit began operation in 1967.
Date of Closure:	This unit is currently active.
Wastes Managed:	This unit currently generates and accumulates the following hazardous wastes: methylene chloride (EPA waste codes D001 and F002), benzene (D001 and F002), pyridine with chromium (F005 and D007), acetone (F003), alcohol (F003), toxic solids (D004, D005, and D007 through D009), acids (D002), alkalies (D002), and acids with metals (D002 and D004 through D010).
Release Controls:	The laboratory benches have an epoxy-resin, hard-top surface. There were no other release controls in place at the time of the VSI.
History of Documented Releases:	There are no reports of release incidents.

Observations: No visible contamination was observed in the vicinity of this SWMU during the VSI. There are no floor drains in the laboratory areas (see Photo No. 1).

SWMU 2 **Waste Treatment Area**

Unit Description: This unit is located in room SL-1209 on the first floor of the Science Building. It is used to treat hazardous wastes generated in SWMU 1 (process code T04). This room has a dimension of 42 feet by 42 feet. The ceiling material consists of 4-foot by 4-foot tiles. The walls consist of drywall construction material and the floor covering material is ceramic tiles. The following treatment activities are performed in this area:

- Solvent distillation
- Metal precipitation
- Neutralization
- Evaporation
- Oxidation and reduction

The treatments are conducted on laboratory benches and in fumehoods. The benches are approximately 24 feet long and 4 feet wide. The benches have an epoxy-resin, hard-top surface. There are five fumehoods located at the west end of the laboratory (see Photo No. 2)

Date of Startup: This unit began operation in 1981.

Date of Closure: This unit is currently active. However, the facility has submitted a RCRA closure plan, dated December 20, 1991, to IEPA for the closure of this unit. The facility is awaiting response from IEPA.

Wastes Managed: This unit currently treats the following hazardous wastes: methylene chloride (EPA waste codes D001 and F002), benzene (D001 and F002), pyridine with chromium (F005 and D007), acetone (F003), alcohol (F003), toxic solids (D004, D005, and D007 through D009), acids (D002), alkalies (D002), and acids with metals (D002 and D004 through D010).

Release Controls:	The laboratory benches have epoxy-resin, hard-top surface. There were no other release controls in place at the time of the VSI.
History of Documented Releases:	There are no reports of release incidents.
Observations:	No visible contamination was observed in the vicinity of this SWMU during the VSI. There are no floor drains in the treatment area (see Photo No. 2).
SWMU 3	**Waste Container Storage Area**
Unit Description:	This unit is located in room SL-0308 on the ground floor of the Science Building. It is used to store hazardous wastes for greater than 90 days (process code S01). It has an area of 289 square feet and a capacity for storing 200 gallons of waste. The ceiling material consists of 2.5-foot wide concrete slabs that run the entire length of the room. The walls are cinder block construction on all sides, except for the south wall. The south wall is constructed of brick and mortar material. The floor is concrete with no floor drains. The floor is several inches lower than all the exits from the room. A concrete curb provides containment. At present, in addition to the storage of hazardous waste, this unit also stores some of the chemicals required by the university laboratories. The room also contains substances that are listed in the Illinois Material Exchange Program. The chemicals are stored on wood shelves (SIUSB, 1991) (see Photo No. 3).
Date of Startup:	This unit began operation in 1967.
Date of Closure:	This unit is currently active. However, the facility has submitted a RCRA closure plan, dated December 20, 1991, to IEPA. The facility is awaiting response from IEPA.
Wastes Managed:	This unit currently stores the following hazardous wastes: methylene chloride (EPA waste codes D001 and F002), benzene (D001 and F002), pyridine with chromium (F005 and D007),

	acetone (F003), alcohol (F003), toxic solids (D004, D005, and D007 through D009), acids (D002), alkalies (D002), acids with metals (D002 and D004 through D010), and methanol (F003). Waste methanol is received from SIU's Physical Plant facility, the remaining nine wastes are generated at the SUISB facility.
Release Controls:	A concrete curb along the periphery of the room provides containment.
History of Documented Releases:	A 5-gallon pail of waste entitled "nonhalogenated solvent only" was found leaking on the floor of this unit on February 14, 1990. Apparently, approximately 2 gallons were released. The spill was contained by a clayey absorbent material (U.S. EPA, 1990a).
Observations:	No visible contamination was observed in the vicinity of this SWMU during the VSI. No cracks or floor drains were observed on the concrete floor (see Photo No. 3).
SWMU 4	**General Refuse Accumulation Area**
Unit Description:	This unit is located in room SL-0309 on the ground floor of the Science Building. It is used to store laboratory wastes and waste plastic, cardboard, and foam that are generated, respectively, from laboratory experiments and unpacking shipments. This waste is accumulated on a concrete floor. The unit is enclosed on four sides. The waste is picked up once a week and disposed of in the Laidlaw Landfill in Edwardsville, Illinois.
Date of Startup:	This unit began operation in 1967.
Date of Closure:	This unit is currently active.
Wastes Managed:	This unit manages nonhazardous laboratory wastes, plastic, cardboard, and foam wastes.
Release Controls:	The waste is accumulated in a room with four walls and a roof.

History of Documented Releases: There are no reports of release incidents.

Observations: PRC did not note dispersal of the waste from this unit during the VSI (see Photo No. 4).

4.0 AREAS OF CONCERN

PRC identified no AOCs during the PA/VSI.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified four SWMUs and no AOCs at the SIUSB facility. Background information on the facility's location, operations, waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of release documents, and observed condition, is discussed in Section 3.0. Following are PRC's conclusions and recommendations for each SWMU. Table 3 identifies the SWMUs at the SIUSB facility and suggested further actions.

SWMU 1 **Satellite Accumulation Areas**

Conclusions: No releases are known to have occurred from this SWMU. The potential for release to ground water, surface water, air, and on-site soils is low because the SWMU is located on a ceramic floor inside a building. All accumulation containers appeared in sound condition. The potential for release to air is low because the containers are kept closed.

Recommendations: No further action is recommended.

SWMU 2 **Waste Treatment Area**

Conclusions: No releases are known to have occurred from this SWMU. The facility has submitted a closure plan for this unit. The potential for release to ground water, surface water, and on-site soils appears to be low because this SWMU is located on a ceramic floor inside a building. The potential for release to air is low because the treatment of hazardous wastes is conducted in fumehoods and the containers are kept closed.

Recommendations: The facility has submitted a RCRA closure plan for this unit to IEPA and is currently awaiting response from IEPA. No further action is recommended at this time.

TABLE 3

SWMU SUMMARY

	SWMU	Operational Dates	Evidence of Release	Suggested Further Action
1.	Satellite Accumulation Areas	1967 to present	None	None
2.	Waste Treatment Area	1981 to present	None	None
3.	Waste Container Storage Area	1967 to present	Some leakage of a hazardous waste was observed during a 1990 RCRA inspection.	None
4.	General Refuse Accumulation Area	1967 to present	None	None

ENFORCEMENT CONFIDENTIAL

SWMU 3 **Waste Container Storage Area**

Conclusions: Approximately 2 gallons of a hazardous waste is known to have been released from this SWMU in February 1990. The waste was fully absorbed using a clayey material and the floor was completely cleaned. Since the spill occurred on a concrete floor, the likelihood of this release impacting the ground water is low. No other releases are known to have occurred from this SWMU. The facility has submitted a closure plan for this unit. The potential for release to ground water, surface water, and on-site soils appears to be low because this SWMU is located on a concrete floor inside a building. The potential for release to air is low because the waste-bearing drums are stored closed.

Recommendations: The facility has submitted a RCRA closure plan for this unit to IEPA and is currently awaiting response from IEPA. This unit is undergoing RCRA closure. No further action is recommended at this time.

SWMU 4 **General Refuse Accumulation Area**

Conclusions: No releases to ground water, surface water, on-site soils, or air are known or suspected to have occurred from this SWMU.

Recommendations: No further action is recommended.

RELEASED
DATE 2/5/01
RIN #
INITIALS

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Illinois State Geological Survey (ISGS), 1979. 43rd Tri-State Geological Field Conference, Guidebook 14.

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Kalimuthu, B, 1992. Director, Public Works Department, City of Edwardsville, Illinois, Telephone Conversation with Hans Upadhyay, PRC, March 13.

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National Academy Press (NAP), 1983. Prudent Practices for the Disposal of Chemicals from Laboratories.

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SUISB, 1987b. Part A Permit Application for Treatment and Storage of Hazardous Waste, March 23.

SIUSB, 1991. Closure Plan for the Hazardous Waste Management Program, Science Building, Rooms SL-1209 and SL-0308, December 20.

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U.S. Geological Survey (USGS), 1974. Wood River, Illinois-Missouri, Quadrangle Map.

USGS, 1991. Edwardsville, Illinois, Quadrangle Map.

ATTACHMENT A

EPA PRELIMINARY ASSESSMENT FORM 2070-12

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	IL D 006 331

II. SITE NAME AND LOCATION

01 SITE NAME *(Legal, common, or descriptive name of site)*	02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER
Southern Illinois University, Science Building	Southern Illinois University Campus

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Edwardsville	IL	62026	Madison		

09 COORDINATES: LATITUDE	LONGITUDE
38° 47' 41" N	89° 59' 56" W

10 DIRECTIONS TO SITE *(Starting from nearest public road)*
From Interstate 270, take State Road 157 north to University Drive to SIUE Campus

III. RESPONSIBLE PARTIES

01 OWNER *(if known)*	02 STREET *(Business, mailing residential)*
State of Illinois, Board of Trustees	Colyer Hall, SIU Campus

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Carbondale	IL	62901	(618) 536-3331

07 OPERATOR *(If known and different from owner)*	08 STREET *(Business, mailing, residential)*
Southern Illinois University at Edwardsville	SIUE Campus

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Edwardsville	IL	62026	(618) 692-2042

13 TYPE OF OWNERSHIP *(Check one)*
☐ A. PRIVATE ☐ B. FEDERAL: _____ *(Agency Name)* ■ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER _____ *(Specify)* ☐ G. UNKNOWN

14. OWNER/OPERATOR NOTIFICATION ON FILE *(Check all that apply)*
☐ A. RCRA 3010 DATE RECEIVED: ___/___/___ MONTH DAY YEAR ☐ B. UNCONTROLLED WASTE SITE *(CERCLA 103 c)* DATE RECEIVED: ___/___/___ MONTH DAY YEAR ■ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO DATE 01/08/92
BY *(Check all that apply)*
☐ A. EPA ☒ B. EPA CONTRACTOR ■ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ *(Specify)*
CONTRACTOR NAME(S): PRC Environmental Management, Inc.

02 SITE STATUS *(Check one)*
■ A. ACTIVE ☐ B. INACTIVE ☐ C.UNKNOWN

03 YEARS OF OPERATION
1987 BEGINNING YEAR | present ENDING YEAR ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Hazardous wastes handled by SIU, Science Building, inlcude waste methylene chloride, benzene, pyridine, acetone, corrosives, and toxic solids.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

None.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION *(Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents.)*
☐ A. HIGH *(Inspection required promptly)* ☐ B. MEDIUM *(Inspection required)* ■ C. LOW *(Inspect on time-available basis)* ☐ D. NONE *(No further action needed; complete current disposition form)*

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF *(Agency/Organization)*			03 TELEPHONE NUMBER
Kevin Pierard	U.S. EPA			(312) 886-4448
04 PERSON RESPONSIBLE FOR ASSESSMENT	**05 AGENCY**	**06 ORGANIZATION**	**07 TELEPHONE NUMBER**	**08 DATE**
Hans Upadhyay		PRC-EMI	(708) 255-4166	01/08/92 MONTH DAY YEAR

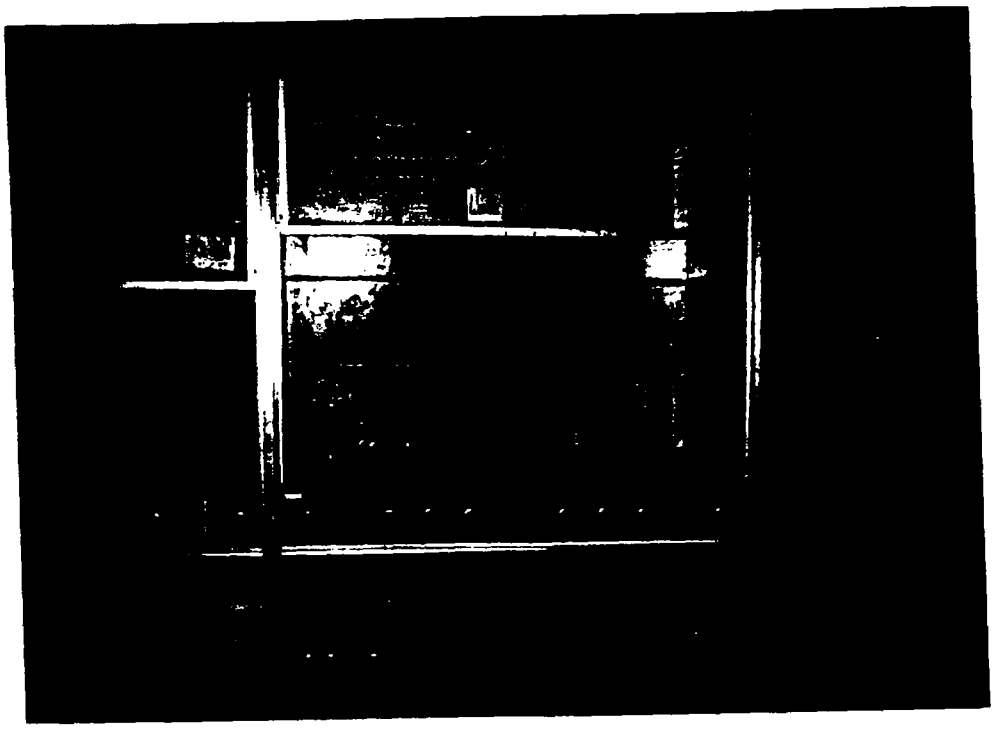
ATTACHMENT B

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

VISUAL SITE INSPECTION SUMMARY

Southern Illinois University, Science Building
SIU Campus
Edwardsville, Illinois
ILD 006 331 342

Date:	January 8, 1992
Facility Representatives:	David McDonald, Coordinator for Environmental Control Southern Illinois University at Edwardsville
Inspection Team:	Lorraine Morris, PRC Environmental Management, Inc. (PRC) Hans Upadhyay, PRC
Photographer:	Lorraine Morris
Weather Conditions:	Overcast, 45° F
Summary of Activities:	The VSI of the SIUSB facility began at 11:00 a.m. on January 8, 1992, with an introductory meeting. The inspection team discussed the purpose of the VSI and the agenda for the visit. Facility representative then discussed SIUSB's past operations, solid wastes generated, and release history. Most of the information was exchanged on a question-and-answer basis. The VSI tour began at noon. The inspection team, accompanied by the facility representative, inspected four SWMUs. The tour was completed at 2:00 p.m. PRC inspectors then accompanied the SIUSB representative to his office to review facility's waste treatment documents. PRC inspectors left the facility at 2:30 p.m.

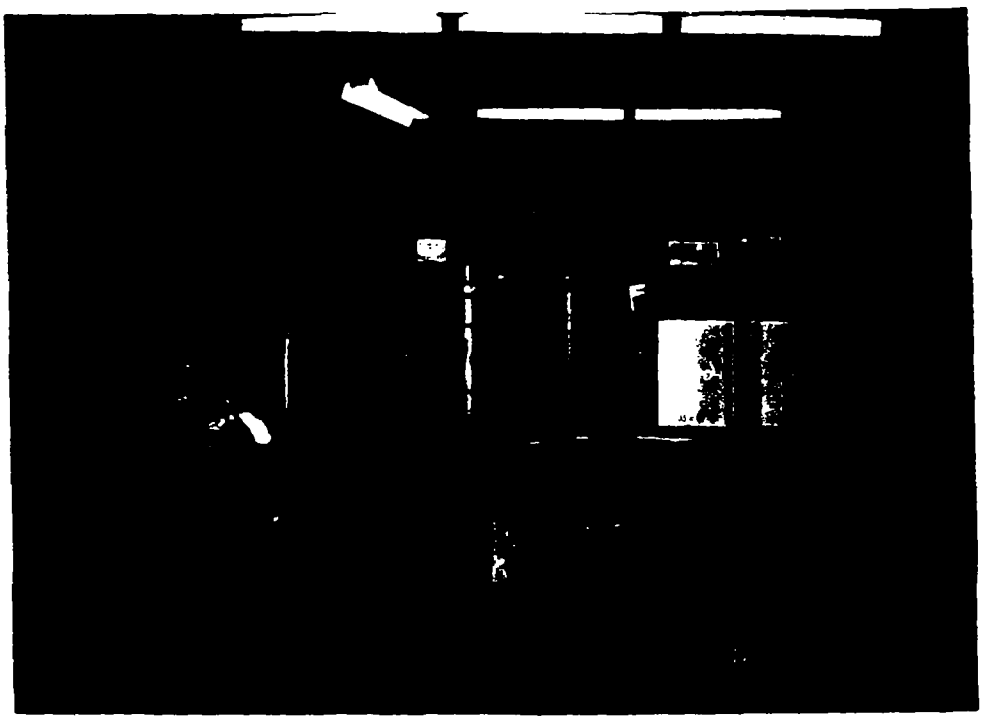


Photograph No. 1 Location: SWMU 1
Orientation: East Date: 01/08/92
Description: Hazardous waste accumulation area in room SL-2217

Photograph No. 2 Location: SWMU 2
Orientation: Southwest Date: 01/08/92
Description: Hazardous waste treatment area in room SL-1209. Three of five fumehoods used for treatment can be seen at the upper right corner of the photo.

Photograph No. 3
Orientation: Northwest
Description: Hazardous waste container storage area in room SL-0308

Location: SWMU 3
Date: 01/08/92



Photograph No. 4 Location: SWMU 4
Orientation: East Date: 01/08/92
Description: Nonhazardous laboratory wastes, plastic, cardboard, and foam waste in room SL-0309

ATTACHMENT C

VISUAL SITE INSPECTION FIELD NOTES

(1) 1/8/92
SIU - Edwardsville
arrive 11:00 am
Dave McDonald

Part A covers Science Bldg
3 floors

166,528 sq ft

≈ 100 employees

Tower Lake NW of facility

- Joe Wilson / lab attendant
X 3556 10 am

- active fuel oil tank on
SE side of bldg
used for generator / back up

Rm 1209 (2)
a [illegible]
Waste from teaching
labs

Cation groups! 4
many organics
biochemicals

waste from labs [illegible]
bottles
lab - to site treatment Rm
daily insp.
Storage room weekly insp

4 liter bottles segregated
into categories & placed
on [illegible] until [illegible]
5 hoods
treatment within hoods

(3)

accum time for treatment
≤ 1 mth.

photo / SW
tstmt room

< 250 gal / mth
quantities dependent on
+ types labs taught
in each Bldg

bio hazard waste from
health bldg
+ photo waste
from photo shop
- rarely from other
bldgs.

(4)

Rm 2218
Physical Chem Lab
very little wet lab
work
1 hood per lab designated
for waste

Rm 2217
Anal Chem Lab.

Rm 2216
Organic Chem Lab

Rm 2215
Gen Chem Lab

Rm. 2212
Org Reaction Lab

(5)

3 Research Labs
gen have 2 5 gal buckets
for solid waste
in addition to

teaching lab have
crocks for solid waste
under the hoods - ~~dog~~ Sim
transferred to
Stock Room
RM 2109 into 5 gal buckets

Biochemistry
RM 2210

RM 2209
Organic Lab
Lab 2 SAAs
Other paper

(6)

RM 2221
Preparation Room

Waste Storage Area
(South wall in Storage Area
for Chemical product storage)

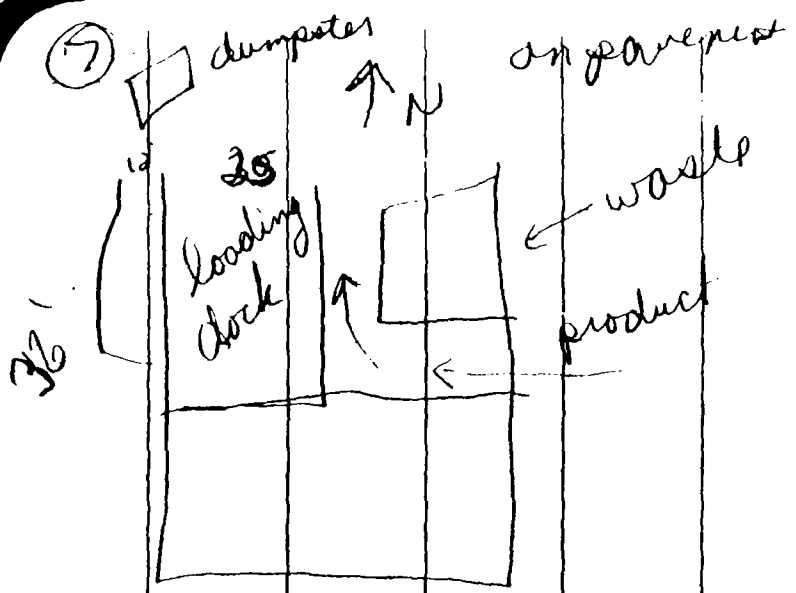
2 shelving unit for TINY
Chemicals

North wall for lab pack
waste ≈ 25 containers
(chromium, lead, mercury etc)

3 - 55 gall drums
1 - non halogenated (Acetone & Alcohol)
2 - halogenated (Chloroform & Benzene)

paint waste (some latex
some solvent base)
12 - 5 gal buckets

(7)



Loading dock

3 drums oil product gen ref waste

1 5gal bucket w/ unknown contents pet distillates

(8)

Manifests

7/90 5 gal waste naphthalene U165
5 gal corrosive waste D002
55 gal flammable waste D001, F003
↳ to PSC, EMI
Pecatonica, IL
transporter Precision Eng System

12/90 145 D000 poison solid
to Treatment one - Texas
transporter Precision Eng Systems

7/90 flam waste D001
115 gals
to PSC, EMI

6/91 D005 Poison
13 gal

5/91 F003 - aceton + alcohol 110 gal F003's
110 gal F002 - methylene chloride, 3 drums F002

(9)

1st shipment to

to Rineco Chemical Ind
1007 Vulcan Road Rockdell
Benton AR 72015

Transporter
Precision Energy System

3/91	F003	55 gal
	F002	55 gal

to Rineco

10/91	F002	55 gal
	F003	8.5 gal

to Rineco

(10)

W of Science Bldg
parking lot + grave stand w/ woods

13,000 pop Edwardsville
campus police
Bldg secure
city water

Leave Site 2:30 pm

Lorraine T. Morris

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

5HR-12

January 6, 1992

Mr. Dave McDonald
Southern Illinois University
Box 1652
Edwardsville, Illinois 62026

Re: Visual Site Inspection
Southern Illinois University
ILD 006 331 342

Dear Mr. McDonald:

The United States Environmental Protection Agency (U.S. EPA) Region V will conduct a Preliminary Assessment including a Visual Site Inspection (PA/VSI) at the referenced facility. This inspection is conducted pursuant to the Resource Conservation and Recovery Act, as amended (RCRA) Section 3007 and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA) Section 104(e). The referenced facility has generated, treated, stored, or disposed of hazardous waste subject to RCRA. The PA/VSI requires identification and systematic review of all solid waste streams at the facility. The objective of the PA/VSI is to determine whether or not releases of hazardous wastes or hazardous constituents have occurred or are occurring at the facility which may require further investigation. This analysis will also provide information to establish priorities for addressing any confirmed releases.

The visual site inspection of your facility is to verify the location of all solid waste management units (SWMUs) and areas of concern (AOCs) to make a cursory determination of their condition by visual observation. The definitions of SWMUs and AOCs are included in Attachment I. The VSI supplements and updates data gathered during a preliminary file review. During this site inspection, no samples will be taken. A sampling visit to ascertain if releases of hazardous waste or constituents have occurred may be required at a later date.

Assistance of some of your personnel may be required in reviewing solid waste flow(s) or previous disposal practices. The site inspection is to provide a technical understanding of the present and past waste flows and handling, treatment, storage, and disposal practices. Photographs of the facility are necessary to document the condition of the units at the facility and the waste management practices used.

The VSI has been scheduled for January 8, 1992 at 10:00 a.m. The inspection team will consist of Lorraine Morris and Hans Upadhyay of PRC Environmental Management, Inc., a contractor for the U.S. EPA. Representatives of the Illinois Environmental Protection Agency (IEPA) may also be present. Your cooperation in admitting and assisting them while on site is appreciated.

The U.S. EPA recommends that personnel who are familiar with present and past manufacturing and waste management activities be available during the VSI. Access to any relevant maps, diagrams, hydrogeologic reports, environmental assessment reports, sampling data sheets, environmental permits (air, NPDES), manifests and/or correspondence is also necessary, as such information is needed to complete the PA/VSI.

If you have any questions, please contact me at (312) 886-4448 or Francene Harris at (312) 886-2884. A copy of the Preliminary Assessment/Visual Site Inspection Report, excluding the conclusions and Executive Summary portion will be sent when the report is available.

Sincerely yours,

Francene D. Harris for

Kevin M. Pierard, Chief
OH/MN Technical Enforcement Section

Enclosure

cc: Larry Eastep, IEPA
Ken Mensing, IEPA

ATTACHMENT I

The definitions of solid waste management unit (SWMU) and area of concern (AOC) are as follows:

A SWMU is defined as any discernable unit where solid wastes have been placed at any time from which hazardous constituents might migrate, regardless of whether the unit was intended for the management of a solid or hazardous waste.

The SWMU definition includes the following:

- RCRA regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that U.S. Environmental Protection Agency has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents, such as wood preservative treatment dripping areas, loading or unloading areas, or solvent washing areas

An AOC is defined as any area where a release to the environment of hazardous wastes or constituents has occurred or is suspected to have occurred on a nonroutine or nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

PRC requests that, if available, the following facility information be provided during the VSI:

1. Two copies of a detailed map of the facility
2. Facility history, including dates of operation, ownership changes, and production processes
3. Current facility operations
4. Processes that generate waste that is treated, stored, or disposed of at the facility
5. Records of disposal of wastes generated at the facility (manifests, annual reports, etc...)
6. Security at the facility
7. Information regarding geology and the uses of ground water and surface water in the area
8. Permits (air, NPDES, etc...) the facility currently holds or has held in the past and documentation of any permit violations that may have occurred
9. Records of any spills that may have occurred at the facility
10. Descriptive operational information (location, dimensions, capacity, materials of construction, etc...), dates of start-up and closure, wastes managed, release controls, and release history for each SWMU